

USSR

UDC: 621.882.974-975:539.431

TARKHANOV, V. I.

"Fatigue Strength of Bolts at Normal and Low Temperatures"

Moscow, Vestnik Mashinostroyeniya, No 12, 1972, pp 13-15.

Abstract: M12 bolts 100-110 mm long were tested at room temperature and -60°C . The test machine loaded four bolts simultaneously at 2800 cycles per minute. The fatigue strength under these conditions was found to be practically independent of steel type for steel types 10, 10kp, 20, 20kp, 35 and 3kp. Fatigue strength was also practically independent of strength class. Fatigue strength for these bolts should be figured in calculation as $\sigma_r = 2.5 \text{ kg/mm}^2$.

Type 10 steel bolts of strength class 5.8 showed particularly low fatigue strength in the transition cross section between head and shaft, particularly when the parts connected tended to tilt the loading surfaces.

1/1

- 149 -

USSR

UDC: 621.315.592

GUREVICH, L. E. and TARKHANYAN, R. G.

"The Connection Between Electromagnetic Waves and Plasma and Optical Oscillations in a Single-Axis Polar Crystal"

Leningrad, Fizika i tekhnika poluprovodnikov, No 10, 1972, pp 1895-1899

Abstract: The authors consider the effect of long-wave lattice oscillations on the propagation of electromagnetic waves in a uniaxial polar crystal with an electron plasma. They show that the connection among the three subsystems substantially alters the laws of electromagnetic propagation they deduced in earlier studies, published in the same journal named above (3, 1969, 63; 6, 1972, 1716), for cases of waves connected only with the plasma oscillations or only with the optical oscillations of the lattice. The theory is developed by solving the Maxwell equations in which the displacement vector of the long-wave optical oscillations and the collisionless equation of motion of free electrons of a particular spectrum are computed to yield the dielectric permeability tensor. Using this tensor, the authors obtain from the dispersion equation

1/2

USSR

UDC: 621.315.592

GUREVICH, L. E., et al, Fizika i tekhnika poluprovodnikov, No 10, 1972, pp 1895-1899

the indices of refraction for two waves, one transverse and the other longitudinal-transverse to the crystal axis.

2/2

- 100 -

USSR

UDC 621.315.592

GUREVICH, L.E. [Physico-Technical Institute imeni A.F. Ioffe, Academy Of Sciences, USSR, Leningrad]; TARKHANYAN, R.G. [Institute Of Radiophysics And Electronics, Academy Of Sciences, Armenian SSR, Yerevan]

"Electromagnetic Waves In Uniaxial Conductive Crystals In A Magnetic Field"

Fizika i tekhnika poluprovodnikov, Vol 6, No 4, Apr 1972, pp 703-709

Abstract: The propagation is investigated of electromagnetic waves in an uniaxial conductive crystal located in a magnetic field of an arbitrary form oriented with the axis of the crystal. The polarization is studied of waves propagating lengthwise of a magnetic field, the rotation is considered of an ellipse of polarization in the magnetic field, and it is shown that the angle of rotation and the degree of ellipticity can oscillate, while with specific conditions the characteristic length of the oscillations can prove to be much smaller than the thickness of the crystal. It is shown that the cyclotron and plasma resonance known for isotropic media are shifted, changed into a combined cyclotron-plasma resonance. The reflection of waves is considered, the regions of transparency and total reflection are investigated, and an expression is obtained for the reflection coefficient in the region of propagation of helicons. The formulae obtained can be used for determining the optical characteristics of both uniaxial and one-sided deformed cubic crystals of type n-InSb.7 ref. Received, 30 Sept 71.
1/1

1/2 041 UNCLASSIFIED PROCESSING DATE--027CT70
TITLE--EXPERIMENTAL INVESTIGATION OF THE INERTIA OF PHOTODIODES WITH
RESPECT TO THE SPECTRUM OF THE HOLE NOISE OF THE PHOTOCURRENTS -U-
AUTHOR--(02)-TARKHIN, D.V., ARMENCHA, N.N.
COUNTRY OF INFO--USSR
SOURCE--V SB. FIZ. ELEKTRONNO, DYROCHN. PEREKHODOV I POLUPROVODN. PROBROV
REFERENCE--RZH, ELEKTRONIKA I YEYE PRIMENENIYE, NO 3, MAR 70, ABSTRACT NO
DATE PUBLISHED-----69
SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR.
TOPIC TAGS--PHOTODIODE, SEMICONDUCTOR DIODE, GERMANIUM DIODE, JUNCTION
DIODE, FREQUENCY CHARACTERISTIC, ELECTROMAGNETIC NOISE, HELIUM NEON
LASER, KERR CELL, ELECTRON HOLE/(U)F03 PHOTODIODE, (U)F0K1 PHOTODIODE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1991/0489 STEP NO--UR/0000/69/000/000/0227/0230
CIRC ACCESSION NO--AR0110328
UNCLASSIFIED

2/2 041

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AR0110328

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PAPER INVESTIGATES THE SPECTRUM OF THE HOLE NOISE AND THE FREQUENCY CHARACTERISTICS OF THE SENSITIVITY OF INDUSTRIAL PHOTODIODES OF TYPES FD3 AND FDK1, AND ALSO GERMANIUM DIFFUSED DIODES WITH A THIN BASE AND SURFACE BARRIER DIODES IN A COAXIAL DESIGN. THE HOLE NOISE WAS MEASURED BY THE MODULATION METHOD IN THE 0.15-500 MHZ RANGE, AND THE FREQUENCY CHARACTERISTICS WERE PLOTTED DURING ILLUMINATION OF THE PHOTODIODE BY THE RADIATION OF A HELIUM NEON LASER ($\lambda = 0.63$) MODULATED BY A KERR CELL. IT IS SHOWN THAT THE THRESHOLD FREQUENCIES, DETERMINED BY THE FREQUENCY CHARACTERISTICS AND BY THE NOISE SPECTRUM OF THE GERMANIUM DIFFUSED PHOTODIODE WITH A THIN BASE COINCIDE SATISFACTORILY; FOR THE FD3 AND FDK1 PHOTODIODES THE RELATION BETWEEN THE THRESHOLD FREQUENCIES IS DETERMINED BY THE RELATION BETWEEN THE DIFFUSION TIME OF THE CARRIERS IN THE BASE AND THE TIME CONSTANT OF THE RC CIRCUIT.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--DETERMINATION OF ALUMINUM -U-
AUTHOR--(03)-VOROPAYEVA, G.A., KALININ, S.K., TARKHINA, V.D.
COUNTRY OF INFO--USSR
SOURCE--U.S.S.R. 265,539
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--09MAR70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--PHOTOMETRIC ANALYSIS, CHEMICAL PATENT, ORGANIC SOLVENT,
ALUMINUM COMPOUND
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3004/0833 STEP NO--UR/0482/70/000/000/0000/0000
CIRC ACCESSION NO--AA0131426
UNCLASSIFIED

U21
CIRC ACCESSION NO--AA0131426
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--04DEC70

ABSTRACT. AL IS DETD. BY FORMING AL
COMPLEXES WITH TRIPHENYLMETHANE DYES (E.G. CHROME AZUROL S OR ERIOCHROME
CYANINE) AND PHOTOMETRIC ANAL. OF THE COMPLEX. THE COMPLEX IS SEPD. BY
FLOTATION BY ADDN. OF ORG. SOLVENTS TO THE STARTING SOLN.
FACILITY: GIPRONIKEL STATE PLANNING AND SCIENTIFIC RESEARCH INSTITUTE
OF THE NICKEL INDUSTRY.

UNCLASSIFIED

USSR

UDC 669.14.018.8:620.18:620.17

VITMAN, D. V., TARKHOV, N. A., and STROYEV, V. S.

"Change of Structure and Properties of Cr-Ni Steels During Heating in Carbonaceous Atmospheres"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 4, Apr 73, pp 9-12

Abstract: Effect of structure and properties of Kh23Ni8 and Kh20Ni4S2 steels in the form of pipe were studied for conditions of crack development according to changes in structure and chemical composition. Kh23Ni8 steel pipe had been exposed to carbon-containing atmospheres at 900-920°C for one year while Kh10Ni4S2 pipe had been subjected to the same atmosphere at 950°C for 2000 hours. The diffusion layer was 4.6 mm deep for Kh23Ni8 steel and 1.8-2.2 mm deep for Kh20Ni4S2 and the structure consisted of austenite and chromium carbides of the $M_{23}C_6$ and M_7C_3 types with the deep layers containing the $M_{23}C_6$ carbide. In the process of saturating these steels with carbon there occurs the discontinuous transformation of $M_{23}C_6$ carbides into M_7C_3 carbides which permits enrichment of the austenite with chromium. Metal of the diffusion layer in Cr-Ni steels possesses low ductility at 20-700°C which has been associated with the formation of structure stresses caused by the

1/2

USSR

VITMAN, D. V., et al., Metallovedeniye i Termicheskaya Obrabotka Metallov,
No 4, Apr 73, pp 9-12

different coefficients of linear thermal expansion of the structural
constituents and the presence of a large amount of the carbide phase. Five
figures, three tables, six bibliographic references.

2/2

- 37 -

USSR

UDC: 621.378.324+621.385.27.81

LEONOV, G. S., MANANOV, R. G., TARKHOV, Yu. K., SHIPULO, G. P.

"Effective Pumping of a Continuous Garnet Laser by a Water Cooled Metal Halide Lamp"

Moscow, Kvantovaya Elektronika, Sbornik Statey, No 2(8), 1972, pp 112-115

Abstract: A design is proposed for a water-cooled metal halide flash tube. The spectral characteristics of lamps filled with Xe + Hg + NaI + RbI and with Xe + Hg + NaI + TlI are studied. Nd:YAG laser emission power is measured as a function of pumping for lamps with different fillers. It is shown that the differential efficiency of a laser when pumped by a tube with sodium and rubidium iodides added is 3.5 times as high as when a xenon tube is used, and 1.5 times as high as when a krypton tube is used for pumping. Four illustrations, bibliography of seven titles.

1/1

- 51 -

1/2 012
UNCLASSIFIED
TITLE--EXAMPLE OF THE EMPLOYMENT OF THREE DIMENSIONAL MINIMISATION
FUNCTIONS -U-
AUTHOR--(02)-TARKHOVA, T.N., IVANOV, O.F.
PROCESSING DATE--04DEC70
COUNTRY OF INFO--USSR
SOURCE--KRISTALLOGRAFIYA (USSR), VOL. 15, NO. 3, P. 573-6 (MAY 1970)
DATE PUBLISHED----MAY70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--X RAY DIFFRACTION, COPPER COMPOUND, ACETATE, QUINOLINE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605029/EOT STEP NO--UR/0070/70/015/003/0573/0576
CIRC ACCESSION NO--A20141750
UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0141750

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. A THREE DIMENSIONAL MINIMISATION
FUNCTION METHOD IS APPLIED TO X RAY DIFFRACTION DATA FOR THE ADDITION
COMPOUND BETWEEN COPPER ACETATE AND QUINOLINE, 47N (TARKHOVA AND ABLOV,
ABSTR. 1197 OF 1969). THE PROJECTIONS OF THE FUNCTIONS M SUB2, M SUB4,
M SUB8 ON THE (010) PLANE ARE ILLUSTRATED; ATOMIC COORDIANATES ARE
TABULATED TOGETHER WITH THEIR DEVIATIONS FROM THE VALUES GIVEN BY
TARKHOVA AND ABLOV.

UNCLASSIFIED

USSR

UDC 612.6.014.45

TARASOVA, A. V., and SEKACH, S. M., Leningrad, Institute of Physical Education
imeni P. F. Lesgaft

"Experimental Study of the Effect of General Vertical Vibration on Generative
Functions"

Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, No 12, 1971, pp 40-41

Abstract: The effects of general vertical vibration on testicles of mice, their fertility, and the resulting influence of these factors on the generation produced were studied. Ten male mice were subjected to vibration of 50 Hz and an amplitude of 0.8 mm for 5 hours every day for 2 months. Many structural changes occurred in testicles after two months of vibration which seriously altered the spermatogenesis process. Three male mice were incapable of fertilization, and the remaining produced from 1-3 litters (2-8 mice each). The number of litters was lower than for control animals. Weight of newborn mice was almost normal (4.2-6.3 g) but their general development (opening of eyes, ears, appearance of hair, teeth) was delayed 1-4 days.

1/1

208

MODELING THE RELIABILITY PARAMETERS OF TRANSISTORS OF THE GTR TYPE G
WITH AUTOMATIC DEVICES

Article by A. N. Zhurav, Moscow, USSR, USSR Space Science and Technology, Moscow, 1971, pp. 200-207.

One of the current problems in space biology and medicine is an evaluation of the reliability of the organism and an allowance for the influence of external spaceflight factors when subjected to different loads under conditions of extreme automatic device proposed here.

We made the assumption that organs consist of a great number of elements of the same type (for example, kidneys consist of nephrons and lungs consist of lobes) operating on the "all or nothing" principle. They have the characteristic of states (under normal conditions a small number of elements of an organ are independently greater number become active) and stability, making it impossible for the elements to operate very long. The combination of these two properties is one of the characteristic of reliability of organs which can be called "performance reserve."

Automatic device A(n) represents an element of such an organ. It can be in one of m states $1, 2, \dots, n, 1, 2, \dots, n$. Depending on which, it undergoes transitions into a new state. With transition to the states $1, 2, \dots, n$ the automatic device "operates", but with transition to the states $1, 2, \dots, n$ the automatic device "does not operate". In the case of loss the automatic device undergoes transition from the states $1, 1, 1, \dots, (n-1)$ into the states $1, 2, \dots, (n-1)$ ("does not operate"),

USSR

UDC 543.42:666.1/2

YEVSTROP'YEV, K. S., KRUPKIN, YU. S., GALIMOV, D. T., TARLAKOV,
YU. P., SHEVYAKOV, A. M.

"On the Structural Features of $R_2O - B_2O_2 - GeO_2$ System Glasses
from IR and EPR Spectroscopic Data"

Minsk, Zhurnal Prikladnoy Spektroskopii (Journal of Applied
Spectroscopy), Vol 13, No 4, Oct 70, pp 655-661

Abstract: A UR-10 spectrograph was used to take ir spectra in
the range of 1600 to 400 cm^{-1} . The glass samples, made of
chemically pure materials, were heated to 800°C and pressed into
potassium bromide. A Co^{60} gamma source of 10^4r/hr was used to
irradiate the samples for the EPR tests. The dose was 2×10^6
roentgens at room temperature. The spectra were recorded with
an RE 1301 radiospectrometer at 300°K .

Ir spectra of sodium glass samples with varying content (10, 20,
and 30 mole %) of alkali oxide and of lithium and potassium boro-
germanate glasses were taken. As the Na_2O content is increased,

1/3

USSR

YEVSTROP'YEV, K. S., Zhurnal Prikladnoy Spektroskopii, Vol 13,
No 4, Oct 70, pp 655-661

the spectral curves become simpler and the principal absorption band of $\text{Ge} - \text{O} - \text{Ge}$ at 900 cm^{-1} progressively shifts in the long wave direction. This behavior holds also for Li_2O , Na_2O , and K_2O .

Introduction of boric anhydride into the sample greatly alters the nature of the spectra of alkali germanate glasses. The principal absorption band shifts toward the higher frequencies. The band at 1100 cm^{-1} attributed to BO_4 tetrahedra, increases in intensity. The deformation vibration band at 600 to 400 cm^{-1} decreases gradually and in borate glasses degenerates. The effect of the boric anhydride is the same for sodium, lithium, and potassium glasses.

2/3

- 61 -

USSR

YEVSTROP'YEV, K. S., Zhurnal Prikladnoy Spektroskopii, Vol 13,
No 4, Oct 70, pp 655-661

The shifting of the absorption bands and changes in intensity with variation in the composition and content of the glasses is related to changes in lattice structures in the samples.

Epr spectra excited by gamma radiation were taken for the same samples, and similar analyses and interpretations are made as for the ir spectra. Variation in the signals and their intensities as a function of the quantity of B_2O_3 correlates well with the results of the ir spectra.

It is concluded that there is a range of compositions of alkali borogermanate glasses in which part of the germanium exists in sixfold coordination (in the form of GeO_6 octahedra). The range expands as the concentration of the alkali oxide increases. For 10, 20, and 30 mole % of Na_2O , the limiting concentration of B_2O_3 is 10, 25, and 30 to 40 mole %. In potassium and lithium glasses the maximum is 30 to 40 mole % of B_2O_3 .

Orig. article has 4 figures, 1 table, and 10 references.

3/3

024
UNCLASSIFIED
PROCESSING DATE--16OCT70
TITLE--THE INFRARED SPECTROSCOPIC STUDY OF SOLID SOLUTIONS IN THE Y SUB2
SI SUB2 O SUB7-Y SUB2 GE SUB2 O SUB7 SYSTEM -U-
AUTHOR--(04)-SHEVYAKOV, A.M., TARLAKOV, YU.P., SOKOLOV, A.N., BURBA, A.A.
COUNTRY OF INFO--USSR
SOURCE--ZH. PRIKL. SPEKTROSK. 1970, 12(2), 345-6
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, PHYSICS
TOPIC TAGS--SOLID SOLUTION, IR SPECTROSCOPY, YTTRIUM COMPOUND, GERMANIUM
COMPOUND, METAL OXIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1995/0928
CIRC ACCESSION NO--AP0116438
STEP NO--UR/0368/70/012/002/0345/0346
UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0116438

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE IR SPECTRA OF Y SUB2 GE SUBN SI SUB1(2NEGATIVE N) O SUB7 (II), WHERE N EQUALS 2, 1.6, 1.4, 1.2, 1.18, 1.08, 0.6, 0.4, 0.3, 0.1, 0.06, AND 0 AND OF ALPHA PRIME--Y SUB2 SI SUB2 O SUB7 (II) WERE RECORDED. SAMPLES OF THE SOLID SOLNS. WERE PREPD. FROM PURE OXIDES BY MEANS OF SOLID PHASE SYNTHESIS AT 1350DEGREES WITH COMBINATION OF ROASTING AND WET GRINDING. COMPARISON OF THE IR SPECTRA OF I WITH N EQUALS 0.4-1.18 AND II SHOWED SIMILARITY IN THE STRUCTURES OF THESE COMPS. AND CONFIRMED CRYSTALLOPTIC ANAL. DATA CONCERNING THE REGION OF HOMOGENEITY OF THE SYSTEM.

UNCLASSIFIED

USSR

UDC 539.376:534.1

SHKLYARCHUK, N. F., TARLAKOVSKIY, D. V.

"Oscillations and Stability of an Elastic Controlled Missile With Cavities Partially Filled With Liquid"

V sb. Konf. po kolebaniyam mekh. sistem. Tezisy dokl. (Conference on Oscillations of Mechanical Systems. Abstracts of the Reports), Kiev, "Nauk. dumka", 1971, p 86 (from RZh-Mekhanika, No 10, Oct 71, Abstract No 10V269)

Translation: The authors consider two-dimensional perturbed motion of a system of two elastically connected bodies, one of which (the "carrier") has cavities partially filled with an ideal liquid, and is loaded by a compressive tracking force. The system is stabilized by deflection of the tracking force vector through a right angle by means of a stabilization automaton with pickups on both the carrier and the attached body. Stability boundaries of small oscillations of the closed system are determined on the basis of D-partition in the plane of two parameters. As an example, the authors analyze the case where the carrier has two cylindrical cavities with liquid, and the angular stabilization autom-

1/2

USSR

SHKLYARCHUK, N. F., TARLAKOVSKIY, D. V., Konf. po kolebaniyam mekh. sistem.
Tezisy dokl., Kiev, Nauk. dumka, 1971, p 86

aton is described by a second-order differential equation which relates the angle of deflection of the force vector to the angle and the angular rate of turn of one of the two bodies which are elastically hinged together.

A study is made of the effect which wave motions of the liquid and various parameters of the system (coefficients of amplification, rigidity of the connector, longitudinal acceleration, etc.) have on the stability boundaries. Approximate results are given which were derived on the basis of equations in which individual degrees of freedom were not taken into account, or the relations between different forms of oscillations were disregarded. Various simplifications are evaluated.

2/2

- 79 -

029
TITLE--MOLD LININGS -U- UNCLASSIFIED PROCESSING DATE--04DEC70
AUTHOR--(05)-NIZKOVSKIY, V.M., KURUKLIS, G.L., GELFENBEIN, E.YU.,
TARLINSKIY, I.V., KHOREV, V.N.
COUNTRY OF INFO--USSR
SOURCE--GER. 1,558,150
DATE PUBLISHED--14MAY70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--CHEMICAL PATENT, MOLD LUBRICANT, EPOXY RESIN, MOLYBDENUM
DISULFIDE, TOLUENE, BUTANOL, ETHANOL, KETONE, ETHYLENE GLYCOL, ACETATE,
PETROLEUM PRODUCT, ORGANIC SOLVENT, METAL CASTING, MOLDING MATERIAL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3004/0838
CIRC ACCESSION NO--AA0131431
STEP NO--GY/0000/70/000/000/0000/0000
UNCLASSIFIED

2/2

029

CIRC ACCESSION NO--AA0131431
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--04DEC70

ABSTRACT. MOLD LINING COMPS. USED IN PRESSURE MOLDING OF METALS WERE PREPD. FROM MOS SUB2, EPOXY RESINS, DI-BU PHTHALATE, AND POLYETHYLENE POLYAMINE DILD. WITH NITRO CONTG. SOLVENTS. A COMPN. OF THIS TYPE WAS DILD. WITH A MIXT. OF PHME, BUOH, ETOH, ME SUB2 CO, ETHYLENE GLYCOL, AND BU OR AMYL ACETATE, COATED ONTO THE WALL OF A MOLD, AND DEGREASED WITH ME SUB2 CO OR ETOH. THE COATING HARDENED MORE QUICKLY THAN PREVIOUS COATING COMPS. TO GIVE A SMOOTH THIN LINING WHICH INCREASED THE EASE OF REMOVAL OF THE CASTING. AFTER 2-3 CASTINGS, THE SURFACE WAS WASHED WITH PETROLEUM AND RECOATED. FACILITY: ORDZHONIKIDZE, URAL PLANT OF HEAVY MACHINE BUILDING.

UNCLASSIFIED

1/2 022

UNCLASSIFIED
TITLE--EFFECT OF HYDROGEN ON THE WELDABILITY OF PIPES FROM STEELS ALLOYED
WITH TRACE ADDITIVES -U-
AUTHOR-(03)-TARLINSKIY, V.D., KAPINOS, D.B., LOSEV, YU.F.
PROCESSING DATE--23OCT70

COUNTRY OF INFO--USSR

SOURCE--STROIT. TRUBOPUOVODOV 1970, 15(1), 19-20

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--WELDABILITY, STEEL PIPE, MICROALLOYING, HYDROGEN
EMBRITTLMENT, METAL CRACKING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1996/1840

STEP NO--UR/0095/70/015/001/0019/0020

CIRC ACCESSION NO--AP0118804

UNCLASSIFIED

2/2

022

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0118804
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. VARIOUS FORMULAS IN THE LITERATURE BASED ON THE C EQUIV. FOR THE ASSESSMENT OF WELDABILITY ARE CONSIDERED ONLY AS INDICATIVE, NOT ACCOUNTING FOR THE EXTREME EFFECTS OF TRACE ELEMENTS. THE USE OF SPECIFIED HEATING TEMP. PRIOR TO WELDING TO PREEMPT MICROCRACKING ALSO WAS UNCORRELATED. IN THE NEW WORK, THE PARTICULAR EFFECT OF H CONTENTS WAS SHOWN IN THE MODIFICATION OF THE REQUIRED PREHEATING TEMPS. AND THUS THE AVOIDANCE OF TOO RAPID CHILLING WITH A BETTER CRYSTD. JUNCTION; WITH INCREASE OF H, HIGHER TEMPS. WERE USED TO REDUCE H EMBRITTLEMENT. COMPREHENSIVE FORMULAS TO ACCOUNT FOR ALL FACTORS WERE FOR C EQUIV. $E_{SUBC} = C + (SI-30) + (MN-20) + (CU + NI + CR + MO) - 50 + (V + Nb + Ti) - 5 + 5B$ PLUS $(T-400) + (H-100)$, WHERE THE SYMBOL REPRESENTS PERCENT OF ELEMENT OR FOR H, CM PRIME3-100 G, AND T EQUALS WALL THICKNESS OF TUBES; THE CONDITIONAL PREHEATING TEMP. $T_{SUBC} = 1100E_{SUBC} - 10$ GREATER 400DEGREES. ACTUAL PREHEATING WAS PRESCRIBED FOR VALUES T SUBC GREATER THAN 100DEGREES. INCREASED H LEVEL WAS PREVENTED BY PREDESSICATION OF THE FLUX SHEATHED ELECTRODES, BUT OTHERWISE MIGHT RISE TO SIMILAR TO 10 CM PRIME3-100 G OWING TO THE TYPE OF SEAM, THE USE OF AUTOMATIC OR MANUAL METHODS, OR BY SERIAL WELDING. PLOTS FOR T SUBC AGAINST H CONTENT FOR VARIOUS ADDNS. TO THE STEEL SHOWED A GENERALLY LINEAR BEHAVIOR IN ACCORDANCE WITH THE WEIGHTED FORMULA RELATIONS. THE NECESSITY FOR PREHEATING WAS SHOWN TO BE MOST FAVORABLE TO THE WELD STRENGTH WITH GAS SHROUDING.

UNCLASSIFIED

USSR

REZNIKOV, G. and TARNAI, K.

UDC: 6 21.374.387

"A Fast Amplitude-Digital Converter With High Resolving Power"
Moscow, Pribury i tekhnika eksperimenta, No. 2, 1971, pp 103-106

Abstract: The converter described in this article has 8192 channels, each 1.25 mV wide, uses a reference-voltage system, and is essentially an analog-digital interface. A block diagram and a fairly detailed explanation of its operation are given. The system is capable of operating in four modes: normal, gating, coincidence, and anticoincidence; it has two types of reference signal, one in the high energy range, the other in the low. The results of measurements made on the instrument are given in the form of curves; the devices used to make these measurements were developed by the Budapest Institute of Electronics and Precision Mechanics. These results agree closely with the results of theoretical computations made on an electronic computer. Members of the Budapest Central Institute of Physical Research, the authors thank their colleagues and the Obninsk FEI /expansion unknown/ for their assistance.

1/1

UNCLASSIFIED
EFFECT AND AFTEREFFECT OF SIMAZINE ON GOOSEBERRIES -U-
PROCESSING DATE--30OCT70
AUTHOR--(02)--PISAREVA, M.G., TARNAKINA, L.G.
COUNTRY OF INFO--USSR
SOURCE--KHIM. SEL. KHOZ. 1970, 8(2), 123-6
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--HERBICIDE, SOIL CHEMISTRY, NITRIFICATION/(U)SIMAZINE HERBICIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/1360
CIRC ACCESSION NO--AP0125008
STEP NO--UR/0394/70/006/002/0123/0126
UNCLASSIFIED

010
CIRC ACCESSION NO--AP0125008
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SIMAZINE WAS APPLIED AT 4, 6, 8,
AND 12 KG-HA. AFTER 3 MONTHS, CONTENTS OF THE HERBICIDE IN THE SOIL
LAYER, DEPENDING ON LEVEL WERE: 0-5 CM, 1.46-3 KG-HA; 5-10 CM,
0.58-1.46 KG-HA; 10-20 CM, 0-0.69 KG-HA; 20-30 CM, NONE. OATS WERE SOWN
IN THE SOIL CONTG. THE SIMAZINE, AND A DECREASE IN OATS WT. WAS NOTED.
A YEAR AFTER ITS APPLICATION THE SIMAZINE CONTENT WAS: 0-5 CM,
0.20-0.65 KG-HA; 5-10 CM, 0.21-0.99 KG-HA; 10-20 CM, 0-0.30 KG-HA; 20-30
CM, NONE. THE CONTENTS OF NO SUB3 PRIME NEGATIVE AND NH SUB4 PRIME
POSITIVE IN THE SOIL IN THE YEAR OF SIMAZINE APPLICATION INDICATED THAT
IT HAD NO EFFECT ON AMMONIFICATION AND NITRIFICATION. IT DID NOT AFFECT
THE GROWTH OF GOOSEBERRY SHRUBS OR THE CROP YIELD AND QUALITY. THE WT.
OF WEEDS IN THE YEAR OF SIMAZINE APPLICATION (JULY) AT LEVELS 4, 6, AND
8 KG-HA WAS ALMOST THAT OBTAINED BY HAND TREATMENT (SIMILAR TO 600 G-H
PRIME2 OF GREEN MATTER).

PROCESSING DATE--30OCT70

UNCLASSIFIED

UNCLASSIFIED

USSR

UDC 577.1:615.7/9

DANILENKO, V. S., KOTLY, V. N., TARNAVSKAYA, M. I., BARDIK, YU. V.
"Effect of Unithiole on the Chromaffin Tissue of the Adrenals in
Acute Radiation Sickness"

Farmakol. i toksikologiya. Resp. mezhved. sb. (Pharmacology and
Toxicology. Republic Interdepartmental Collection of Works), 1970,
No 5, pp 76-79 (from RZh-Biologicheskaya Khimiya, No 19, 10 Oct 70,
Abstract No 19 F1824)

Translation: Unithiole (I) increases the catecholamine content in
chromaffin cells of the adrenals in intact animals and restores the
epinephrine and norepinephrine content in the adrenals, which
decreases substantially after X-irradiation. I strengthens the
compensatory functions of the sympathicoadrenal system. This may
explain the radioprotective and partial therapeutic effects of the
thiol compounds.

1/1

Resume

USSR

UDC 621.762.3(088.8)
POBEGAYLO, G. G., TARNOPOL'SKIY, B. M., and KIRPICHEV, A. D., Institute of
Ferrous Metallurgy

"Device for Mixing Powdered Materials"

USSR Authors' Certificate No 272320, Cl. 18a, 1/02 (C 21 b 1/02), filed 23
Mar 68, published 1 Sep 70 (from RZh-Metallurgiya, No 3, Mar 71, Abstract No
36416P)

Translation: The device for mixing powdered materials in a fluidized bed is
a vessel operating under pressure with an aerating grid and piping system.
In order to lessen entrainment by spent gas of the materials being mixed,
a filtering element is built into the top of the vessel and around it is
mounted spiral piping with holes for venting the compressed gas that is fed
in to clean the filtering element. One illustration.

1/1:

USSR

UDC: 621.373.531(088.8)

CHERKASOV, L. A., ~~TARNOPOL'SKIY, V. L.~~, YERSHOV, S. V.

"A Device for Shaping Low-Frequency Oscillations"

USSR Author's Certificate No 262188, filed 25 Dec 67, published 2 Jun 70
(from RZh-Radiotekhnika, No 11, Nov 70, Abstract No 11G180 P)

Translation: This Author's Certificate introduces a device for shaping low-frequency oscillations. The unit contains two high-frequency oscillators, which are based on transistors with a delay line in the feedback circuits used as the frequency-determining element. The device also contains a beat detector and a low-frequency filter. In order to produce stable low-frequency oscillations when there are variations in temperature, the delay line is connected through decoupling capacitors between the collectors of the transistors, and the beat detectors is connected to the centertap of the delay line which is loaded by a resistor.

USSR

UDC 678.5:620.171

TARNOPOL'SKIY, YU. M., and KINTSIS, T. YA.

"Features of Mechanical Tests of High Modulus Reinforced Plastics"
Moscow, Zavodskaya Laboratoriya, Vol 39, No 11, Nov 73

Abstract: The features of testing high modulus reinforced plastics (with boron and carbon fibers) in tension, compression, and shear, with determination of their elastic and plastic properties, are examined in this survey article. The factors associated with the selection of the sample shape and size as well as means of applying loads and securing them in test machine clamps are studied for plane samples in the form of strip, two-sided blades, and triple-layer beams, and circular samples. The factors involved in the testing of reinforced plastics differ from those in testing metals due to the elastic and strength anisotropies of plastic and the weak shear and tear strengths. Another consideration is the method used to process the data of experimental results in order to correctly evaluate the potentialities of this new class of structural polymer materials. Three figures, 18 bibliographic references.

1/1

- 7 -

USSR

Composite Materials

UDC 678.539.3+539.4

TARNOPOL'SKIY, YU. M., POLYAKOV, V. A., and ZHIGUN, I. G., Institute of Mechanics of Polymers of the Academy of Sciences Latvian SSR, Riga

"Composite Materials Reinforced by a System of Three Straight Orthogonal Reciprocal Fibers." Part One. Calculation of Elastic Characteristics. Riga, Mekhanika Polimerov, No 5, Sep/Oct 73, pp 853-860

Abstract: Previously developed methods of the theory of reinforced media for laminated or fibrous materials are used for the study of the effectiveness of a trivariate reinforcement. The suggested methods for the calculation of elastic characteristics are based on the reduction of a three-dimensional structure to a two- or one-dimensional structure by means of introduction of a modified matrix. The properties of the matrix are determined by the modulus of elasticity of the bonding agent and the reinforcement coefficient in one of the three directions. Expressions are derived for the approximate estimate of elasticity characteristics of materials with high-module reinforcement. An essential increase of the transversal modulus of elasticity, if compared with the shear modulus, was disclosed even at an insignificant coefficient of reinforcement in the third direction. The

1/2

USSR

TARNOPOL'SKIY, YU. M., et al., Mekhanika Polimerov, No 5, Sep/Oct 73, pp 853-860

principal gain of the latter consists in the sharp increase of the resistance to interlayer displacement and of the resistance to transversal tear away. Two figures, one table, 17 formulas, eight bibliographic references.

2/2

- 7 -

USSR

UDC: 678:[621.01+539.4]

TARNOPOL'SKIY, YU. M., PORTNOV, G. G., SPRIDZANS, YU. B., and BULMANIS, V. N.,
Institute of Polymer Mechanics, Academy of Sciences of the Latvian SSR, Riga

"The Supporting Power of Rings Formed by the Winding of Composites Reinforced by
High-Modular Anisotropic Fibers"

Riga, Mekhanika Polimerov, No 4, Jul-Aug 73, pp 673-683

Abstract: The authors study the particulars of composites which are related to the intrinsic anisotropy of reinforcing fibers. The effect of twisting and reinforcement stretching is studied on the axisymmetry of the field of deformations, and the moduli of elasticity and strength in the direction of the fibers under external and internal pressure loading, while taking into consideration the increased pliability of the material in a transverse direction. In the case of modular material, the authors obtain numerical estimates for the moduli of elasticity E_x and E_y , for the coefficients of thermal expansion α_x and α_y , and for the initial temperature stresses σ_x^0 and σ_y^0 . The dependence of the destructive pressure on ring thickness is described and the conditions for failure are formulated. In all the studied problems it is shown that it is necessary to take into consideration the increased pliability of the composites in the transverse direction.

1/1

USSR

Tarnapol'skiy, Yu. M.

UDC: 678:[621.01+539.4]

"Modern Trends in the Development of Fiber Composites"
Riga, Mekhanika Polimerov, No 3, 1972, pp 541-552.

Abstract: Two main trends in the development of high-molecular composites are noted. The first group of publications on these composites has been involved with the establishment and evaluation of the structural properties of composite materials. A later group of publications, increasing in recent years, has involved a search for methods of eliminating undesirable structural characteristics of composites by the transition to high-modulus fibers and development of three-dimensional reinforcement plans designed to create couplings between layers. A review of methods of calculation capable of considering phenomena related to the weak shear and transverse characteristics of these materials is presented. It is demonstrated that works designed for elimination of negative features inherent in composites with traditional reinforcement plans have resulted in the creation of materials which do not have these primary defects. The structural peculiarities of boron- and carbon-reinforced plastics with traditional reinforcement and spatially cross-linked materials reinforced with systems of two or three threads are described. Further tasks are formulated for high-modulus composites.

1/1

- 5 -

AP0 024232

AUTHOR--

TARNOPOL, SKIY, YU., DOCTOR OF TECHNICAL SCIENCES,
PROFESSOR

UR 9019

35
5
250

TITLE--

REINFORCED POLYMERS-- THEIR PRESENT AND FUTURE

NEWSPAPER--

SOVETSKAYA LATVIYA, FEBRUARY 19, 1970, P 2, COLS 5-8

ABSTRACT-- THE ARTICLE IS A VERY BRIEF REVIEW OF THE STATE OF THE
ART OF COMPOSITE PLASTIC MATERIALS. IN IT TARNOPOL, SKIY MENTIONS
INTENSIVE SEARCH FOR NEW REINFORCING MATERIALS, SUCH AS BORON OR
GRAPHITE FIBERS, AND ALSO THE FACT THAT MOTOR CASES OF "POLARIS
A-3" ROCKET ARE MADE OF GLASS-REINFORCED PLASTIC. THE UTILITY OF
REINFORCED PLASTICS FOR BUILDING HULLS OF SUBMERSIBLES IS ALSO NOTED.

Am

19650903

7

USSR

UDC 51

TARNOPOL'SKIY, Yu. Ya.

"Mathematical Model and Planning Algorithms for Multiorder Production"

Pribory i sistemy avtomatiki. Resp. mezhved. temat. nauch.-tekhn. sb.
(Automation Devices and Systems. Republic Interdepartmental Thematic Scientific-Technical Collection), 1972, No. 24, pp 29-38 (from RZh-Matematika, No 11, Nov 72, Abstract No 11V485)

Translation: Problems associated with the construction of a mathematical model for planning multinomenclature production are discussed. The model is constructed as a multigrid and encompasses the basic parts planned for the given period. A method is proposed for conducting optimization calculations. An algorithm for calculating the distribution of resources on the multigrid model is discussed in detail. Authors abstract.

1/1

USSR

UDC: 51

TARNOPOL'SKIY, Yu. Ya.

"Mathematical Model and Planning Algorithms for Multiple-order Production"

Pribory i Sistemy Avtomatiki. Resp. Mezhd. Temat. Nauch.-tekhn. Sb. [Automation Devices and Systems. Republic Interdepartmental Thematic Scientific and Technical Collection], 1972, No 24, pp 29-38 (Translated from Referativnyy Zhurnal Kibernetika, No 11, 1972, Abstract No 11V485, by the author)

Translation: Problems are studied, related to the construction of a mathematical model for the planning of a multiple-item production process. The model is constructed as a multiple-network model and encompasses the main products planned for production in the plan period in question. A method is suggested for optimization calculation. The algorithm for calculation of the distribution of resources in the multiple-network model is studied in detail.

1/1

1/2 025 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--POLY, ETHYLENE OXIDE -U-

AUTHOR--(05)--CHERKANOV, S.P., TARNORUTSKIY, M.M., GREBENSHCHIKOVA, V.A.,
ALTERGOT, E.V., KOLOSOVA, N.B.
COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 264,691
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRATZY, TOVARNYE ZNAKI, 1970 47(9).
DATE PUBLISHED--03MAR70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--POLYMER, ETHYLENE OXIDE, CHEMICAL PATENT, CATALYTIC
POLYMERIZATION, ORGANOALUMINUM COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3007/0855 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0136289

UNCLASSIFIED

2/2 025 UNCLASSIFIED PROCESSING DATE--04DEC70
CIRC ACCESSION NO--AA0136289
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. POLY(ETHYLENE OXIDE) IS PREPD. BY
POLYMER. OF ETHYLENE OXIDE IN A CATALYST SYSTEM CONSISTING OF AN
ORGANOALUMINUM COMPOUND., A CHELATING AGENT, AND H SUB2O. TO INCREASE
THE MOL. WT. OF THE POLYMER FORMED, DIETHYLENE DIOXIDE OR ITS DERIVS.
ARE USED AS COCATALYSTS. FACILITY: NOVOSIBIRSKIY FILIAL
NAUCHNO-ISSLEDOVATEL'SKOGO INSTITUTA POLIMERIZATSIONNYKH PLASTMASS.

UNCLASSIFIED

1/2 020 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--PECULIARITIES OF THE FORMATION OF THE AROUND THE WELD ZONE
STRUCTURE OF AUSTENITIC STEELS -U-
AUTHOR--(02)-TARNOVSKIY, A.I., LYUBAVSKIY, K.V.
COUNTRY OF INFO--USSR
SOURCE--MOSCOW, SVAROCHNOYE PROIZVODSTVO, NO 3, 1970, PP 8-10
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--AUSTENITIC STEEL, WELD JOINT CRACKING, BIBLIOGRAPHY, WELD ZONE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1999/1301 STEP NO--UR/0135/70/000/003/0008/0010
CIRC ACCESSION NO--AP0123260
UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0123260

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PROCESS OF THE FORMATION OF THE AROUND THE WELD STRUCTURE DURING WELDING WAS EXAMINED. A CONNECTION WAS SHOWN BETWEEN THE CHARACTER OF THE STRUCTURE BEING FORMED DURING WELDING IN THE AROUND THE WELD ZONE AND THE RESISTANCE OF ALLOYS TO THE FORMATION OF HOT AROUND THE WELD CRACKS.

UNCLASSIFIED

USSR

UDC 621.791.001.5:669.15

~~TARNOVSKIY, A. I.~~ Engineer, and LYUBAVSKIY, K. V., Doctor of Technical Sciences,
Central Scientific Research Institute of Technology and Machine Building

"Features in the Formation of the Structure in the Weld-Adjacent Zone of
Austenitic Steels"

Moscow, Svarochnoye Proizvodstvo, No 3, Mar 70, pp 8-10

Abstract: The process of the formation of the structure in the weld-adjacent zone is considered. A study is made of the connection between the tendency of forged austenitic steels and alloys to form hot cracks in the weld-adjacent zone and the nature of the structures formed during welding in this section. Metallographic examination of the weld-adjacent zones of Kh18N9 and Kh18N12T welded steel alloys, which are weakly disposed to the formation of cracks, and of high-temperature steels, which are susceptible to hot crack formation near weld zone, revealed the following types of structures: 1) structures with traces of plastic deformation in the form of displacement lines and twins were observed in the weld-adjacent zone in austenitic steels with a lesser tendency to crack formation; 2) structures in the weld-adjacent zone of heat-resistant steels susceptible to crack formation are characterized by the absence of plastic deformation traces

1/2

USSR

TARNOVSKIY, A. I., et al, Svarochnoye Proizvodstvo, No 3, Mar 70, pp 8-10

and by the presence of double boundary systems, one of which is etched in the form of sharp lines which blend with grain boundaries of the welding metal, while the other is in the form of bright weakly etched grooves which sometimes coincide with sharp boundaries. An analysis of the available data and the results of the metallographic examination confirm the reiterative formation of a system of sharp etching boundaries observed in the weld-adjacent zones of welded alloys. Moreover, the boundaries etched in the form of bright grooves are apparently the traces of grain boundaries formed as a result of recrystallization processes during heating, then disintegrating as a result of an increase in the diffusion process intensity at close to subsolidus temperature. The results confirm that the lower boundary of the temperature interval of the liquid metal is below the boundary of the real solidus. Orig. art. has: 6 figures and 15 references.

2/2

USSR

UDC 620.186.14.669.24

TARNOVSKIY, G. A., GRATSIA NOV, YU. A., OVCHAROV, V. P., YAKUKHINA, L. I.,
CHIRKOVA, S. N., and KULIKOVA, L. P., Ural Scientific Research Institute
of Ferrous Metals

"Nature of Nonmetallic Inclusions in Alloy 58N Billets"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 8, Aug 73,
pp 44-46

Abstract: Results of correlated studies on the contamination of billets with nonmetallic inclusions are presented. The billets were batch produced (vacuum induction melting) and produced by new means using electron-beam (EBR) and plasma-arc (PAR) remelting, and were made from 58N invar alloy containing (in %): 58 Ni, 0.02 C (max), 0.5-0.8 Mn, 0.2 Si, balance-Fe. The contaminants consist mainly of titanium nitride and alumina minerals. The technological schemes of melting: open induction melting + EBR and open induction melting + PAR provide not only significant lowering of inclusion content but also producing metal free from large (greater than 7.5 microns) inclusions. Both production methods can be recommended for the industrial manufacture of alloy 58M. From the aspect of minimum inclusion content the EBR method is preferred, but for producing the required nature of inclusions and degree of dispersity the PAR method is better. Two tables.
1/1

- 66 -

172 024 UNCLASSIFIED PROCESSING DATE--11DEC70
TITLE--ALGORITHM OF A CALCULATION OF THE TEMPERATURE FIELD DURING HOT
ROLLING -U-
AUTHOR--(04)--NYASHIN, YU.I., SKOROKHOV, A.N., KALASHNIKOV, YU.V.,
TARNOVSKIY, I.YA.
COUNTRY OF INFO--USSR
SOURCE--TR. URAL'SKOGO POLITEKH. IN-1A (WORKS OF THE URAL'SK
REFERENCE--KZH, METALLURGIYA, NO 4, 1970, ABSTRACT NO 4015185
DATE PUBLISHED-----69

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--METAL WORKING, HOT WORKING, THERMAL EFFECT, PLASTIC
DEFORMATION, METAL ROLLING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605031/E08 STEP NO--UR/0000/69/000/176/0179/0185

CIRC ACCESSION NO--AR0141972

UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--11DEC77

CIRC ACCESSION NO--AR0141972

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN ALGORITHM OF A CALCULATION OF THE TEMPERATURE FIELD BETWEEN PASSES IN ROLLING RAILS AND GIRDERS IS PROPOSED. THE METHOD OF ELEMENTARY BALANCES USED PERMITS CALCULATING THE TEMPERATURE FIELD FROM PASS TO PASS WITH CONSIDERATION OF THE SECTION DEFORMATION, HEATING OF THE ROLLERS AND THE HEAT SOURCE DUE TO PLASTIC DEFORMATION.

UNCLASSIFIED

USSR

UDC 539.374

NYASHIN, YU. I., SKOROKHOV, A. N., KALASHNIKOV, YU. V., TARNOVSKIY, I. YA.

"Algorithm for Calculating the Temperature Field in Hot Rolling"

Tr. Ural'skogo politekhn. in-ta (Works of Ural'sk Polytechnical Institute),
1969, Collection 176, pp 179-185 (from RZh-Mekhanika, No 5, May 70,
Abstract No 5V383)

[No abstract]

1/1

USSR

UDC 539.374

NYASHIN, YU. I., SKOROKHODOV, A. N., TARNOVSKIY, I. YA., KALASHINKOV, YU. V.,
BOYKO, B. M., BAZHUTIN, V. V.

"Algorithm for Calculating Distortion and Twisting Moments in Rolling
Wide-Band Beams on a Universal Mill"

Tr. Ural'skogo politekhn. in-ta (Works of Ural'sk Polytechnical Institute),
1969, Collection 176, pp 117-122 (from RZh-Mekhanika, No 5, May 70,
Abstract No 5V384)

Translation: The deformation process in rolling I-beams on a universal mill
is studied for a rigid-plastic medium using the Jourdain variational prin-
ciple. A computational algorithm is derived and theoretical and experi-
mental data are compared. Abstract.

1/1

USSR

ILYUKOVICH, B. M., MASHINSKIY, V. V., TARNOVSKIY, I. YA., SKOROKHOBOV, A. N.

"The Mechanics of the Rolling of L-Shaped Corners in Rough Developed Dimensions"

Tr. Ural'skogo politekhn. in-ta (Works of Ural'sk Polytechnical Institute),
1969, Collection 176, pp 107-111 (from RZh-Mekhanika, No 5, May '70,
Abstract No 5V385)

[No abstract]

1/1

USSR

UDC 539.374

ILYUKOVICH, B. M., MASHINSKIY, V. V., TARNOVSKIY, I. YA., SKOROKHODOV, A. N.

"The Mechanics of Rolling L-Shaped Angles to Accurate Dimensions"

Tr. Ural'skogo politekhn. in-ta (Works of Ural'sk Polytechnical Institute),
1969, Collection 176, pp 112-116 (from RZh-Mekhanika, No 5, May 70,
Abstract No 5V386)

[No abstract]

1/1

USSR

UDC 539.376+532.135

POZDEYEV, A. A., ~~TARNOVSKIY, V. I.~~ BAAKASHVILI, V. S., YEREMEYEV, V. I.

"Solution of Certain Problems in the Theory of Creep"

Tr. Gruz. politekhn. in-t (Works of Georgian Polytechnical Institute),
1969, No 3 (131), pp 183-191 (from RZh-Mekhanika, No 4, Apr 70, Abstract
No 4V533)

Translation: It is suggested that the rheological constants entering into
the equation for hereditary elasticity

$$\sigma(t) = \epsilon(t) - \int_0^t \lambda A e^{-\lambda(t-\tau)} \epsilon(\tau) d\tau$$

be determined by analyzing the strength curves for different deformation
rates by inclusion of the relationships determining the stress σ as a func-
tion of the deformation ϵ in the form

$$\sigma = \epsilon(a) = a + (b-a)(1 - e^{-Be})$$

USSR

POZDEYEV, A. A., et al, Tr. Gruz. politekhn. in-t, 1969, No 3 (131),
pp 183-191

A method is developed for determining the constants λ , A , a , b , B that is based on using the simplest quadrature formula. The results are generalized to the case when the relaxation kernel is a linear combination of simple exponential kernels. M. I. Rozovskiy.

2/2

1/2 011 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--CATALYTIC PYROLYSIS OF GASOLINE IN A BENCH APPARATUS -U-
AUTHOR--LYAKUMOVICH, A.G., PAUSHKIN, YA.M., NIKIFOROV, P.A., TAROV, YU.T.
COUNTRY OF INFO--USSR
SOURCE--NEFTEPERERAB. NEFTEKHIM. (MOSCOW,) 1970, (1) 20-2
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, PROPULSION AND FUELS
TOPIC TAGS--CATALYTIC CRACKING, PYROLYSIS, GASOLINE, METAL CATALYST,
ETHYLENE, PROPYLENE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1989/1142 STEP NO--UR/0318/70/000/001/0020/0022
CIRC ACCESSION NO--AP0107631
UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0107631

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PYROLYSIS WITH GROUP VI METALS AS CATALYSTS AT 780 AND 790DEGREES YIELDED 70-80PERCENT AND 35-40PERCENT MORE C SUB2 H SUB4, RESP., AND ONE SIXTH TO ONE EIGHTH OF THE UNREACTED HYDROCARBONS AND RESINS OBTAINED BY PYROLYSIS WITHOUT A CATALYST. THE C SUB3 H SUB6 YIELD REMAINED IN SIMILAR LIMITS. THE GASOLINE, B. 37-149DEGREES AND HAVING SP. GR. 0.657, N, AND ISOPARAFFINS 92.58, NAPHTHENES 2.83, AND AROMATICS 4.59PERCENT, WAS DILD. WITH 40-52PERCENT STEAM. A SCHEMATIC REPRESENTATION OF THE APP. IS PRESENTED.

UNCLASSIFIED

USSR

UDC: 537.521

KAGAN, Yu. M., LYAGUSHCHENKO, R. I., TAROYAN, A. S., KHVOROSTOVSKIY, S. N.,
Leningrad University imeni A. A. Zhdanov

"Concerning the Energy Distribution of Electrons in a Hollow Cathode"

Leningrad, Zhurnal Tekhnicheskoy Fiziki, Vol 43, No 7, Jul 73, pp 1488-1495

Abstract: An expression is found for the energy distribution of electrons in a hollow cathode right up to the first excitation potential with regard to elastic collisions of electrons with atoms. Calculated and measured electron energy distributions are compared. The calculated numbers of excitations for triple levels of helium are compared with measured line intensities.

1/1

USSR

UDC 537.52

KAGAN, Yu. M., TAROYAN, A. S.

"Excitation of a Helium-Neon Mixture in a Discharge in a Hollow Cathode. II"

Leningrad, Optika i Spektroskopiya, Vol 35, No 3, Spe 73, pp 417-421

Abstract: In their previous paper the authors investigated the electrical and optical characteristics of a discharge in a hollow cathode in helium. It was shown that by using the measured electron energy distribution function and deriving balance equations for different levels the line intensities and concentrations of excited atoms can be calculated. The calculated values agree with the measured data. A similar study is done in this paper for a helium-neon mixture. The measurements were made at a helium pressure of 1 mm Hg and a neon pressure of 0.1 mm Hg for currents of 10, 20, 40, 60 ma in a hollow cathode 20 mm in diameter and 100 mm long. The results are tabulated.

1/1

- 63 -

USSR

UDC 537.52: 546.291

KAGAN, YU. M. and TAROYAN, A. S.

"Excitation of Helium in a Discharge in a Hollow Cathode. I"

Leningrad, Optika i Spektroskopiya, Aug 73, pp 205-212

Abstract: The electrical and optical characteristics of a discharge in helium in a hollow cathode had been investigated in 1966 and 1967 by V. S. Borodin and Yu. M. Kagan (Hefts. 1-3 in the abstracted article). In the present work, dealing with the same subject, an attempt is made to improve the experimental research methods and to analyze more precisely the balance levels for the individual levels. Three sequentially placed and series-connected hollow cathodes (20 mm in diameter and 100 mm long) were used, with coaxial anodes and with a 10-mm gap between the cathodes. Thus, the length of the luminous column was three times longer than in the previous experiments. Emphasis is placed upon the fact that account was taken of mixing among the levels. Two figures, five tables.

1/1

- 97 -

1/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--EFFECT OF GAMMA RADIATION ON THE RESPIRATION OF THYMOCYTE NUCLEI
-U-
AUTHOR--(02)-KUZIN, A.M.; TARSHIS, M.A.
COUNTRY OF INFO--USSR
SOURCE--RADIOBIOLOGIYA 1970, 10(1), 116-19
DATE PUBLISHED--70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--GAMMA IRRADIATION, THYMUS GLAND, CELL PHYSIOLOGY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3001/1848 STEP NO--UR/0205/70/010/001/0116/0119
CIRC ACCESSION NO--AP0127258
UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0127258

ABSTRACT/EXTRACT--(U) GP--0- ABSTRACT. RATS WERE DECAPITATED, AND THEIR THYMOCYTE NUCLEI WERE SEPD. IN A GLUCOSE, NAOL MEDIUM AND IN 0.25M SUCROSE PLUS 3 MM CACL SUB2 MEDIUM, IN 0.05M TRIS BUFFER, PH 7.4. LIVE RATS OR NUCLEI SUSPENDED IN SUCROSE-CACL SUB2 WERE GAMMA IRRADIATED (PRIME137 CS) WITH 1000 R AT 500 R-MIN. THE SUSPENDED NUCLEI IN VITRO WERE INCUBATED AT 37DEGREES WITH THE PERIODIC SHAKING. GAMMA IRRADN. STIMULATED NUCLEAR RESPIRATION 18PERCENT IN THE IRRADIATED RATS DURING THE INITIAL 30 MIN, BUT THEREAFTER IT WAS INHIBITED 44PERCENT BY 4 HR POSTIRRADN. NUCLEI IRRADIATED IN VITRO LOST THEIR ABILITY TO ABSORB O MUCH FASTER AND TO A GREATER EXTENT. IRRADN. OF THE NUCLEI AND INCUBATION IN BLOOD SERUM CONSIDERABLY DECREASED THE IRRADN. INJURY.

FACILITY: INST. BIOFIZ., PUSHCHINO, USSR.

UNCLASSIFIED

1/3 036 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--RADIATION DISTURBANCE OF ATP SYNTHESIS IN THYRUS CELL NUCLEI -U-

AUTHOR--(02)-KUZIN, A.M., TARSHIS, M.A.

COUNTRY OF INFO--USSR

SOURCE--RADIOBIOLOGIYA 1969, 9(5), 755-7

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--THYMUS GLAND, RAT, RNA, DNA, NUCLEUS, RADIATION BIOLOGIC
EFFECT, ADENOSINE TRIPHOSPHATE, BIOSYNTHESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--3005/0433

STEP NO--UR/0205/69/009/005/0755/0757

CIRC ACCESSION NO--AP0132658

UNCLASSIFIED

2/3 036

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0132658

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EXPTS. WERE PERFORMED WITH NUCLEI SEPD. FROM CELLS FROM RAT THYMUS. THE SEPD. NUCLEI HAVE A MEMBRANE THAT IS FREE FROM CYTOPLASMIC FRAGMENTS. THE RNA-DNA RATIO EQUALED 0.168 PLUS OR MINUS 0.017. A LOW LEVEL OF CYTOCHROME C-REDUCTASE (4-5PERCENT) SUGGESTS THAT THE NUCLEAR PREPN. IS VERY PURE. THE NO. OF THYMOCYTES DID NOT EXCEED 5PERCENT. THE AV. CONC. OF DNA AMOUNTED TO 4.8-5.4 MG-ML OF THE SUSPENSION. IMMEDIATELY AFTER THE ISOLATION, THE NUCLEI CONTAINED 0.49 PLUS OR MINUS 0.14 MICROMOLE OF ATP-MG OF DNA P. NUCLEI THAT WERE PREINCUBATED IN A N ATM. SHOWED A LOWER LEVEL OF ATP (0.13 PLUS OR MINUS 0.08 MICROMOLE); A SUBSEQUENT INCUBATION OF NUCLEI IN AIR (20 MIN) SHOWED THAT THE AMT. OF ATP INCREASED TO 0.402 PLUS OR MINUS 0.08 MICROMOLE. NUCLEI SYNTHESIZED ATP FROM INTERNAL PRECURSORS UNDER AEROBIC CONDITIONS. DURING THIS TIME IT WAS SYNTHESIZED IN THE AMT. OF 0.272 PLUS OR MINUS 0.03 MICROMOLE ATP PER MG OF DNA P. INHIBITORS OF OXIDATIVE PHOSPHORYLATION SUPPRESS NUCLEAR ATP SYNTHESIS. AMP, ADP, AND ATP ARE NOT ABLE TO STIMULATE ATP SYNTHESIS WHEN ADDED TO THE NUCLEAR SUSPENSION. NUCLEI SEPD. FROM IRRADIATED ANIMALS SHOWED A DECREASE IN THE ABILITY (TO 31.99PERCENT) TO SYNTHESIZE ATP FROM INTERNAL PRECURSORS AS EARLY AS 30 MIN AFTER IRRADN. THIS DISTURBANCE OF THE SYNTHESIS WAS STRENGTHENED WITH TIME, REACHING A MAX. IN SIMILAR TO 2 HR (90.81PERCENT). THE IRRADN. OF ISOLATED NUCLEI WITH THEIR SUBSEQUENT INCUBATION AT 37DEGREES SHOWED A DECREASE IN THE SYNTHETIC ACTIVITY OF 62.5PERCENT AFTER 30 MIN; SIMILAR TO 2 HR AFTER THE IRRADN. NUCLEI COMPLETELY LOST THEIR SYNTHETIC ABILITY.

UNCLASSIFIED

3/3. 036
CIRC ACCESSION NO--AP0132658
ABSTRACT/EXTRACT--FACILITY:

UNCLASSIFIED

PROCESSING DATE--13NOV70

INST. BIOL. FIZ., PUSHCHINO-DN-OKA, USSR.

UNCLASSIFIED

USSR

TARSHIS, M. A., and UMANSKIY, S. P., Radiatsiya i zhivaya kletka (Radiation and the Living Cell), Moscow, Atomizdat, 1971, 96 pp

Translation: Annotation: The book examines in a lively and interesting manner the contemporary status of the study of the effect of ionizing radiation on the processes which regulate cell metabolism. This is a new topic and therefore many assumptions still remain unsolved for radiobiologists. A popularized account is given of the structure of the cell and the regulatory mechanisms acting at various levels of biological organization. The effect of radiation on many of the most important regulatory systems, including the transfer of hereditary information, the production of energy, and so forth, is examined.

Table of Contents:

Introduction	Page
The cell -- a unique biological structure	3
How is the cell constructed?	6
Biological membranes	10
Nucleus	20
Cytoplasm	23
1/2	32

USSR

TARSHIS, M. A., and UMANSKIY, S. F., Radiatsiya i zhivaya kletka, Moscow, Atomizdat, 1971, 96 pp

	Page
Cell division	40
Regulation -- the basis of the vital activity of the cell	44
From cell to organism	53
Regulation in multicellular organisms	62
Radiation invades the life of the cell	64
Radiation and macromolecules	69
Irradiation and cell metabolism	77
Radiation disturbance of regulatory processes	85
Radiation disturbance of cell energetics	90
The role of membranes in radiation injury of the cell	93
Conclusion	95

USSR

UDC 619:616.9-036.2

TARSHIS, M. G., ROMANOVA, G. I., and SHEVTSOV, A. M., All-Union Scientific Research and Technological Institute of the Biological Industry

"Criteria for Quantitative Evaluation of the Intensity of an Epizootic Situation"

Moscow, Veterinariya, No 11, 1972, p 56

Translation: It is relatively one-sided to evaluate the degree of infection of a particular area from the incidence of the disease or number of foci (affected localities). Yet the planning of control and preventive measures (specially calculation of the requirement for biological preparations) must be based chiefly on a comprehensive assessment of the epizootic situation in different parts of the nosological range.

By intensity of an epizootic situation we mean the intensity with which the disease is manifested among domestic and wild animals in a particular area and over a definite period of time. The intensity is characterized by temporal and spatial parameters.

We propose the index of epizooticity and fraction of affected localities as elements constituting the intensity of an epizootic situation. The index of epizooticity is the ratio of the number of years during which outbreaks were

1/3

USSR

TARSHIS, M. G., et al., Veterinariya, No 11, 1972, p 56

recorded in a given area to the number of years observed. It is calculated from the formula: $I = t/T$, where t is the years when the disease was recorded and T is the number of years observed. The theoretical limits of fluctuation of this criterion are from 0 to 1. We believe this index characterizes the dynamics of manifestation of a disease in time.

The fraction of affected localities (H) is the ratio of the number of affected localities (n) to the total number of inhabited localities (N) in a given area during the period of time under consideration ($H = n/N$). The theoretical limits of fluctuation of this criterion are from 0 to 1. It is used to judge the spatial distribution of the disease.

Thus, the intensity of an epizootic situation is expressed by the formula: $W = IH$, where W is the product of the index of epizooticity and fraction of affected localities.

A comprehensive quantitative evaluation of the intensity of an epizootic situation was applied to a statistical model of blackleg over a 20-year period in an A rank territory of an administrative oblast of the RSFSR to study the range of the disease and the prognosis. The limits of fluctuation of the intensity of the epizootic situation during the 20 years and by 5-year periods varied from 0 to 0.30 in 53 territories of the administrative rayons.

2/3

USSR

TARSHIS, M. G., et al., Veterinariya, No 11, 1972, p 56

The ranking of W showed a stable relationship by 5-year intervals and a stable interdependence by rayons. A comparison of W with the cartographic model of backleg for the oblast showed that W varied with the hypsometric characteristics of the rayons of the oblast.

Analysis of the dynamics of W made it possible to forecast the probable nature of this parameter during the next 5 years, assuming no change in environmental conditions or level of preventive measures used.

The intensity of an epizootic situation is undoubtedly the result of the realization of the preconditions for specific diseases whose detection and quantitative evaluation can be achieved by experimental and logical (mathematical) methods.

Thus, evaluation of the degree of infection of an area from the intensity of the epizootic situation is of value in elucidating the structure of the range of a disease, in forecasting it, and in planning differentiated control and prophylactic measures, vaccination in particular.

3/3

- 93 -

USSR

UDC 619.616.9-02

TARSHIS, M. G., Candidate of Veterinary Sciences

"Study of the Geography of Infectious Diseases of Animals"

Moscow, Veterinariya, No 3, Mar 71, pp 53-54

Abstract: To keep the current agricultural progress going, it is necessary to study the distribution of animal diseases in conjunction with soil and climatic factors. This study -- geographic epizootiology -- requires the use of geographic and mathematical methods. These and other scientific methods have made it possible for man to establish the correlation between the geographic distribution and the true causes of diseases. As a first step, geographic maps of the various animal diseases should be designed. Special mathematical equations must be established for a statistical processing of the voluminous information pertinent to the problem. This processing can best be done by means of punch cards. The main objectives to be achieved in order to facilitate veterinary service are: 1. determine the exact areas of animal diseases; 2. establish the causes of the spread of the diseases; and 3. estimate the potential area of the diseases.

1/1

175 024
UNCLASSIFIED
TITLE--USE OF ISOENZYMES OF LACTATE DEHYDROGENASE SPECTRA IN THE SERUM IN
THE DIAGNOSIS OF DISEASES OF THE PANCREAS -U-
AUTHOR--(05)-CHAZOV, YE.I., SMIRNOV, V.N., TARSIS, G.B., LITVIN, G.D.,
KANSHIN, N.N.
COUNTRY OF INFO--USSR
SOURCE--TERAPEVTICHESKIY ARKHIV, 1970, VOL 42, NR 4, PP 23-29
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--INTERNAL ORGAN DISEASE, PANCREAS, TUMOR, PANCREATITIS, BLOOD
CHEMISTRY, LACTATE DEHYDROGENASE, DIAGNOSTIC MEDICINE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1990/0547
STEP NO--UR/0504/70/042/004/0023/0029
CIRC ACCESSION NO--AP0108763
UNCLASSIFIED

2/3 024

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0108763

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ARTICLE PRESENTS THE RESULTS OF THE USE OF ISOENZYME SPECTRA OF LACTATE DEHYDROGENASE IN THE BLOOD SERUM FOR DIAGNOSIS OF DISEASES OF THE PANCREAS: HEMORRHAGIC PANCREONECROSIS, CHOLISTOPANCREATITIS, CANCER OF THE PANCREAS. THE AUTHORS USED AN ORIGINAL METHOD OF DIVISION OF ISOENZYMES OF LDG OF THE SERUM IN POLYACRYLAMIDE BLOCKS. DATA CONCERNING THE DYNAMIC CHANGES IN THE ENZYME SPECTRA OF LDG OF THE SERUM FOR PATIENTS WITH THE MENTIONED DISEASES WERE COMPARED WITH THE RESULTS OF DIASTASIS DETERMINATION IN THE SERUM. IT WAS FOUND THAT IN CASE OF HEMORRHAGIC PANCREATITIS A POSITIVE CORRELATION BETWEEN THE GROWTH OF LDG-3 AND LDG-4 CONTENT OF THE SERUM IN POLYACRYLAMIDE BLOCKS. DATA CONCERNING THE DYNAMIC CHANGES IN THE ENZYME SPECTRA OF LDG OF THE SERUM FOR PATIENTS WITH THE MENTIONED DISEASES WERE COMPARED WITH THE RESULTS OF DIASTASIS DETERMINATION IN THE SERUM. IT WAS FOUND THAT IN CASE OF HEMORRHAGIC PANCREATITIS A POSITIVE CORRELATION BETWEEN THE GROWTH OF LDG-3 EXPECTED. AND LDG-4 CONTENT OF THE SERUM AND HIGH FIGURES OF THE BLOOD DIASTASIS. SIMILAR RECONSTRUCTION OF THE ISOENZYME SPECTRUM OF LDG OF THE SERUM WAS NOTED IN THE MAJORITY OF PATIENTS WITH EXACERBATION OF CULCULOUS CHOLECYSTITIS IN NORMAL FIGURES OF THE SERUM DIASTASIS. CONSERVATIVE TREATMENT OF PATIENTS WITH CHOLECYSTOPANCREATITIS AND CHOLYCYSTITIS MAY BRING ABOUT A CHANGE IN THE INITIAL PICTURE OF THE ISOENZYME SPECTRUM. IN CASE OF CANCER OF THE PANCREAS CHANGES IN THE ISOENZYME SPECTRUM OF THE SERUM LDG WERE NOT OBSERVED.

UNCLASSIFIED

3/3 024

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0108763

ABSTRACT/EXTRACT--IT WAS FOUND THAT DETERMINATION OF THE ISOENZYME SPECTRA OF THE SERUM LOG ALLOWS A DIFFERENTIAL DIAGNOSIS OF MYOCARDIAL INFARCTION AND AN ATTACK OF ACUTE PANCREATITIS TO BE MADE. THE AUTHORS ASSUME THAT THE CHANGES IN THE ISOENZYME SPECTRUM OF THE SERUM LOG OBSERVED IN PANCREATITIS AND CHOLECYSTOPANCREATITIS ARE PECULIAR NOT ONLY TO THE DISEASE OF THE PANCREAS. AT THE SAME TIME THE METHOD IS VERY USEFUL IN DIAGNOSIS OF THESE DISEASES AND CAN BE USED FOR THE ASSESSMENT OF THE EFFICACY OF THE THERAPY USED. FACILITY: TSENTRAL'NAYA N-I LABORATORIYA 4-GO GLAVNOGO UPRAVLENIIYA PRI MINISTERSTVE ZDRAVOOKHRANENIYA SSSR, MOSCOW.

UNCLASSIFIED

1/2 014 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--KINETICS OF THE DISSOCIATION OF BLOCKED ISOCYANATES -U-
AUTHOR-(03)-TARTAKOVSKAYA, A.M., BLAGONRAVOVA, A.A., STREPIKHEYEV, YU.A.
COUNTRY OF INFO--USSR
SOURCE--VYSOKOLMOL. SOEDIN., SER. B 1970, 12(1), 84-8
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--DISSOCIATION, ORGANIC ISOCYANATE, BENZENE DERIVATIVE,
SPECTROPHOTOMETER, THERMAL DECOMPOSITION, CARBAMATE/1011KS14
SPECTROMETER
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1987/1198 STEP NO--UR/0460/70/012/001/0084/0089
CIRC ACCESSION NO--AP0104564
UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0104564

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE DISSOCN. KINETICS OF BLOCKED ISOCYANATES (I) E.G., PHNHCO SUB2 PH, 4-METHYLPHENYL N-PHENYLCARBAMATE, 2-METHYLPHENYL N-PHENYLCARBAMATE, 4-CHLOROPHENYL N-PHENYLCARBAMATE, 2-CHLOROPHENYL N-PHENYLCARBAMATE, 2-BROMOPHENYL N-PHENYLCARBAMATE, 4-NITROPHENYL N-PHENYLCARBAMATE, AND 2-NITROPHENYL N-PHENYLCARBAMATE WAS STUDIED WITH AN IKS-14 SPECTROPHOTOMETER IN MINERAL OIL AT 85-180DEGREES. THE POSITION OF THE SUBSTITUENT AND ITS NATURE AFFECTED THE DISSOCN. RATE. ELECTRON WITHDRAWING SUBSTITUENTS INCREASED THE RATE; THE EFFECT OF PARA SUBSTITUENTS OBEYED THE HAMMETT EQUATION (SIMILAR TO P EQUALS PLUS 2.00). ADDN. OF 3.38 TIMES 10 PRIME NEGATIVES MOLE-L. BU SUB2 SN(O SUB2 CC SUB11 H SUB23) SUB2 (II) TO THE I SOLN. LOWERED THE DECOMP. TEMP., ESP. AT THE HIGHER TEMP. RANGE. THE CATALYZED DISSOCN. RATE MARKEDLY INCREASED IN THE PRESENCE OF THE ORTHO ELECTRON WITHDRAWING SUBSTITUENTS IN THE RING OF THE BLOCKING PHENOL.

UNCLASSIFIED

USSR

UDC: 546.28'21:539.238

PALATNIK, L. S., TARTAKOVSKAYA, I. KH., and KOTEL'NIKOVA, S. O., Khar'kov
Polytechnic Institute imeni V. I. Lenin

"Dielectric Properties of Thin Silicon Oxide Films as a Function of Condensation Conditions"

Moscow, Neorganicheskiye Materialy, Vol 6, No 2, Feb 70, pp 219-223

Abstract: The low reproducibility of the dielectric properties of condensed SiO films is a factor which has prompted the study of the effects of preparation conditions on structure and dielectric properties. The study covers the effects of condensation rate and dielectric layer thickness on the capacitance, dielectric constant, dielectric losses and breakdown voltage of SiO-base film capacitors as well as the correlation of these properties with the structural characteristics of SiO films. Changes in capacitance with natural and artificial aging were also studied. Low oxidation rates cause SiO partial oxidation. As condensation rates are increased, the films become inhomogeneous in structure. Microdiffraction analysis confirmed the presence, in SiO films, of two highly-disperse phases--crystalline or amorphous silicon and amorphous SiO₂. Tables in

1/2

- 81 -

USSR

PALATNIK, L. S., et al., Neorganicheskiye Materialy, Vol 6, No 2, Feb 70,
pp 219-223

the original article show the specific capacitance of film capacitors as a function of the SiO layer thickness, the dielectric constant as a function of SiO condensation rate, and the optical density of SiO films as a function of thickness at specific condensation rates.

2/2

1/3 028

UNCLASSIFIED

PROCESSING DATE--23OCT70

TITLE--EFFECT OF CONDENSATION CONDITIONS ON THE DIELECTRIC PROPERTIES AND
STRUCTURE OF SiO THIN FILMS -U-

AUTHOR--(03)-PALATNIK, L.S., TARTAKOVSKAYA, I.KH., KOTELNIKOVA, S.O.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(2), 219-23

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, ELECTRONICS AND ELECTRICAL ENGR.

TOPIC TAGS--SILICON OXIDE, SILICON FILM, VAPOR CONDENSATION, THIN FILM
CAPACITOR, ELECTRIC CAPACITANCE, DIELECTRIC LOSS, DIELECTRIC CONSTANT,
REACTION KINETICS, ELECTRON DIFFRACTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1987/2007

STEP NO--UR/0363/70/006/002/0219/0223

CIRC ACCESSION NO--AP0105080

UNCLASSIFIED

2/3 028

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0105080

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE INFLUENCE OF THE CONDENSATION RATE AND THE THICKNESS OF THE DIELEC. LAYER ON CAPACITANCE, DIELEC. CONST., DIELEC. LOSSES, AND BREAKDOWN VOLTAGE OF SiO BASED THIN FILM CAPACITORS WAS STUDIED. AT LOW CONDENSATION RATES, PARTIAL OXIDN. OF SiO TAKES PLACE. INCREASING THE CONDENSATION RATE INCREASES THE HETEROGENEITY OF THE THIN FILMS RELATIVE TO THEIR COMPN. BY USING MICRODIFFRACTION ANAL., THE PRESENCE OF 2 HIGHLY DISPERSED PHASES, CRYST. OR AMORPHOUS Si AND AMORPHOUS SiO₂, WAS OBSD. IN SiO THIN FILMS. THE THIN FILM CAPACITORS WERE PREPD. BY THE ALTERNATING OPERATIONS TECHNIQUE; I.E., EACH LAYER WAS APPLIED IN A SEP. VACUUM APP. THE CONSTRUCTION OF THE VAPORIZER WAS ANALOGOUS. ALSO PERFORMED WERE STRUCTURAL INVESTIGATIONS OF THE THIN FILMS AS DEPENDENT ON THE CONDENSATION RATE. A MARKED DECREASE IN THE DIAM. OF THE HALO AND A CORRESPONDING INCREASE IN THE INTERPLANAR SPACING WERE OBSD. FOR FILMS WITH LOW CONDENSATION RATES. THIS INCREASE IN THE INTERPLANAR SPACING FOR THIN FILMS PREPD. AT LOW CONDENSATION RATES IS PROBABLY ASSOCD. WITH THEIR MORE INTENSIVE OXIDN. AS COMPARED TO THE THIN FILMS OBTAINED AT HIGHER CONDENSATION RATES. A CORRESPONDENCE WAS OBSD. BETWEEN THE RESULTS OF THE ELECTRON DIFFRACTION AND THE MICROPHOTOMETRIC INVESTIGATIONS OF THE THIN FILMS AS A FUNCTION OF THE CONDENSATION RATE. INCREASING THE CONDENSATION RATE ALSO RESULTS IN THE FILM BECOMING VERY NONUNIFORM. A LARGE NO. OF PARTICLES, BANDS, AND ARBORESCENT FORMATIONS APPEARED. THE LATTER ARE PROBABLY SOME SORT OF A CONDENSATION STAGE OF AMORPHOUS SiO, WITH ITS DECOMPN. GOING ON AT THE SAME TIME.

UNCLASSIFIED

3/3 028
CIRC ACCESSION NO--AP0105080
ABSTRACT/EXTRACT--FACILITY:
KHARKOV, USSR.

UNCLASSIFIED

PROCESSING DATE--23OCT70

KHAR'KOV. POLITEKH. INST. IM. LENINA,

UNCLASSIFIED

UNCLASSIFIED
TITLE--THE ROLE OF GEOGRAPHICAL ENVIRONMENT IN PREVALENCE OF
DERMATOMYCOSES IN THE IRKUTSK REGION -U-
AUTHOR--(02)-TARTAKOVSKAYA, L.M., MERKACHEV, I.T.
COUNTRY OF INFO--USSR
SOURCE--VESTNIK DERMATOLOGII I VENEROLOGII, 1970, NR 4, PP 38-42
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--SKIN DISEASE, MYCOSIS, FUNGAL DISEASE, EPIDEMIOLOGY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1990/0563
STEP NO--UR/0206/70/000/004/0038/0042
ERIC ACCESSION NO--AP0108778
UNCLASSIFIED

022

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0108778
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. IN THE COURSE OF INVESTIGATIONS OF THE EPIDEMIOLOGY OF MYCOTIC DISEASES. GREATER ATTENTION IS GIVEN TO FACTORS OF NATURE. THE ANALYSIS WHICH WAS CARRIED OUT SUGGESTS THAT THE INCIDENCE OF DERMATOMYCOSES DEPENDS NOT ONLY UPON EPIDEMIOLOGICAL FEATURES OF THE CAUSATIVE AGENT BUT UPON NATURAL RESERVOIRS OF INFECTION AS WELL. THE STRUCTURE OF THE SOIL PLAYS A CERTAIN ROLE IN THE EPIDEMIOLOGICAL CHAIN. NOT THE LEAST IMPORTANT IN OCCURRENCE OF DERMATOMYCOSES ARE CLIMATIC AND SOCIAL FACTORS, SETTLED WAYS OF LIFE AND DENSITY OF THE POPULATION, AS WELL AS THE DEGREE OF LAND CULTIVATION. EXAMINING THE SOIL FOR THE PRESENCE OF KERATOPHILS, THE AUTHORS FOUND THEM TO BE ISOLATED FROM THE SOIL IN THE MAJORITY OF DISTRICTS OF THE REGION, BEING FOUND MORE FREQUENTLY IN MORE DENSELY POPULATED AREAS THAN IN AREAS WITH LESS POPULATION. THE PREDOMINANT DERMATOPHYTE IN TRICHOPHYTON TERRESTRE CLOSE IN ITS MORPHOLOGICAL PROPERTIES TO TRICHOPHYTON GYPSEUM. FACILITY: IRKUTSKIY OBLASTNOY KOZHNO VENEROLOGICHESKIY DISPANSER AND SEKTOR MEDITSINSKOY GEOGRAFIY INSTITUTA GEOGRAFIY SIBIRI I DAL'NEGO VOSTOKA SIBIRSK OTO, AN SSSR.

UNCLASSIFIED

USSR

UDC 615.644:621.983.3

TARTAKOVSKAYA, L. Ya. and GORODNOVA, N. V., Sverdlovsk Institute of Industrial Hygiene and Occupational Diseases

"The Effect of Vibration on Billet Chippers and Rolled Iron Chippers"

Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, No 2, 1970, pp 12-14

Abstract: Vibration of the air hammers used by chippers is transmitted from the handle not only to the hands, but also to the shin, knee joint, and shoulder. Examination of 130 chippers with an average work experience of 15 years revealed the presence of vibration disease in 35. Characteristic symptoms of the first stage included fleeting pains in the arms and legs, paresthesia, numbness of the arms during sleep, and some autonomic disturbances. In the second stage the pains were more intense and persistent. Paresthesia and numbness occurred not only at rest but during strenuous work, especially when the arms were raised. The autonomic disturbances of the extremities were more pronounced. With the onset of the third stage the pains in the extremities were almost constant. Autonomic and vascular disturbances became more marked and the areas of hypesthesia enlarged.

1/1

USSR

UDC 534.833-522.4;534.213.4

GEL'FGAT, V. I., GUZHAS, D. R., MIKHAYLOV, R. N., and
TARTAKOVSKIY, B. D., Acoustic Institute of the Academy of Sciences USSR, Moscow

"Sound Insulation of a Closed Cylindrical Shell by Inside Excitation"

Moscow, Akusticheskiy Zhurnal, Vol 17, No 4, 1971, pp 545-549

Abstract : The sound insulation of a cylindrical shell on low frequencies by axisymmetric inside excitation and propagation of normal waves excited within the shell is investigated. Formulas are derived characterizing the sound insulation of the cylindrical shell for diffusion sound and normal waves. The calculated dependence of the diffusion sound insulation on the frequency, for $h/R=0.03$ and $h/R=0.003$ (where: R = radius of the cylinder and h =wall thickness of the cylinder), is shown. An experimental proof of the formulas conducted on tubes, 6 m long and 219 mm in diam., wall thickness 2mm and 8 mm, revealed a good agreement with the calculation. It was found that the sound insulation of the shell on low frequencies exceeds considerably the sound insulation of a plate of the same thickness. With increasing frequency the sound insulation decreases and coincides with the sound insulation of a plate on high frequencies. Four illustr., 14 formulas, six bibli. refs.

USSR

UDC 534.21

MIKHAYLOV, R. N., TARTAKOVSKIY, B. D., Acoustics Institute,
Academy of Sciences, USSR, Moscow

"Concerning the Anomaly of Three-Dimensional Attenuation in Thin-
Walled Cylindrical Shells"

Moscow, Akusticheskiy Zhurnal, Vol 16, No 4, 1970, pp 554-557

Abstract: A study is made of the frequency relationship of the three-dimensional attenuation coefficient of various normal waves of the flexural type in the range of transition from oscillation of the "body" type to that of the "shell" type for closed and open cylindrical shells. An anomalously large three-dimensional attenuation was attained in the frequency range under consideration. Various normal waves are considered, and it is shown that the effect decreases as the number of the normal wave increases. 3 figures, 3 bibliographic entries.

1/1

USSR

628.517.2

GUZHAX, D. R., Assistant, TARTAKOVSKIY, B. D., Candidate of Technical Sciences

"Experimental Investigation of the Vibroacoustic Characteristics of Damped Cylindrical Pipes"

Moscow, Izvestiya Vysshikh Uchevnykh Zavedeniy, Mashinostroyeniye, No 12, 1970, pp 36-42

Abstract: Vibrations of the walls of cylindrical pipe lines used for various purposes (for example at compressor stations or electric power plants) are sources of intensive noise, which attains 110-130 db. In a number of cases, intensive vibrations of the pipeline walls were the cause of fatigue destruction of the system of pipelines and fittings. The vibrations of pipeline walls originate as a result of aerodynamic and hydrodynamic processes within the pipeline. The external noise of the pipeline is due, in the first approximation, to noise penetrating through the pipe walls which is formed when the flow passes along the pipeline, and by noise due to the radiation of vibrations which appear in connection with turbulence of the flow in the pipeline and the action of mechanical exciters (the compressor, the reducer, 1/2

USSR

GUZHAX, D. R. and TARTAKOVSKIY, B. D., *Izvestiya Vysshikh Uchevnykh Zavedeniy, Mashinostroyeniye*, No 12, 1970, pp 36-42

etc). In the article are presented the results of an experimental investigation of a homogeneous and reinforced vibration-absorbing coating applied to a cylindrical pipe. The sound-insulating and vibration-damping effect of the vibration-absorbing coating is investigated. The possibility of effective vibration damping of the oscillation of cylindrical pipes by a vibration absorbing viscoelastic homogeneous and reinforced coating is shown. 4 figures, 3 bibliographic entries.

2/2

- 134 -

TITLE--EXPERIMENTAL STUDY OF SOUNDPROOFING OF CYLINDRICAL DUCTS -U-
AUTHOR--(02)-GUZHAS, D.R., TARTAKOVSKIY, B.D.
COUNTRY OF INFO--USSR
SOURCE--MOSCOW, IVUZ MASHINOSTROYENIYE, NO 2, FEB 70, PP 32-37
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--ACOUSTIC INSULATION, CYLINDRIC SHELL STRUCTURE, FREQUENCY CHARACTERISTIC
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1992/1012
CIRC ACCESSION NO--AP0112167
STEP NO--UR/0145/70/000/002/0032/0037
UNCLASSIFIED

031

CIRC ACCESSION NO--AP0112167
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--30OCT70

ABSTRACT. THE RESULTS OF THE EXPERIMENTAL STUDY OF SOUNDPROOFING OF SMALL DIAMETER CYLINDRICAL DUCTS ARE PRESENTED. IT IS SHOWN THAT SOUNDPROOFING OF SUCH DUCTS DIFFERS SHARPLY FROM SOUNDPROOFING OF PLATES OF THE SAME THICKNESS. THE MEASURED AND CALCULATED. ACCORDING TO THE "LAW OF MASS", SOUNDPROOFING OF CYLINDRICAL DUCTS DIFFERS SHARPLY IN MAGNITUDE AND ACCORDING TO THE CHARACTER OF CHANGE IN FREQUENCY. AT LOW FREQUENCIES THE SOUNDPROOFING INCREASES BECAUSE OF THE EFFECT OF TENSILE RIGIDITY OF THE CYLINDRICAL SHELL. AT HIGH FREQUENCIES THE DUCT "SOFTENS", AND ITS SOUNDPROOFING IS ANALOGOUS TO THAT OF A UNIFORMLY THICK PLATE. THE CYLINDRICAL DUCTS AND SHELLS DURING SONICATION ON THE INSIDE ARE HIGHLY SOUNDPROOF AND SURPASS INSULATION OF THE UNIFORMLY THICK PLATE BY 40-60 DB. IT MAY BE ASSUMED THAT INSIDE THE DUCT THERE EXIST WAVES AT WHICH THE DEFORMATION OF THE DUCTS IS VERY SMALL IN THE RADIAL DIRECTION. AT HIGH FREQUENCIES THE SOUNDPROOFING AND THE DUCT, MEASURED BY THIS METHOD, APPROACHES THAT OF A PLATE. THE DUCT BECOMES "SOFTER" FROM THE EFFECT OF FLEXURAL STRAIN. THE CONDUCTED EXPERIMENTAL STUDIES OVERCOME THE PRACTICAL DIFFICULTIES IN CALCULATING SOUNDPROOFING OF CYLINDRICAL DUCTS AND SHELLS. THE ARTICLE WAS RECOMMENDED BY DOCTOR OF TECHNICAL SCIENCES, PROFESSOR OF THE MOSCOW HIGHER TECHNICAL SCHOOL IMENI N. E. BAUMAN, YE. YA. YUDIN.

UNCLASSIFIED

ENGINEERING

Acoustical

USSR

UDC 534.834

GUZHAS, D. R., and TARTAKOVSKIY, B. D.

"Experimental Study of Soundproofing of Cylindrical Ducts"

Moscow, IVUZ Mashinostroyeniye, No 2, Feb 70, pp 32-37

Abstract: The results of the experimental study of soundproofing of small diameter cylindrical ducts are presented. It is shown that soundproofing of such ducts differs sharply from soundproofing of plates of the same thickness. The measured and calculated, according to the "law of mass", soundproofing of cylindrical ducts differs sharply in magnitude and according to the character of change in frequency. At low frequencies the soundproofing increases because of the effect of tensile rigidity of the cylindrical shell. At high frequencies the duct "softens", and its soundproofing is analogous to that of a uniformly thick plate. The cylindrical ducts and shells during sonication on the inside are highly soundproof and surpass insulation of the uniformly thick plate by 40-60

1/2

USSR

GUZHAS, D. R., TARTAKOVSKIY, B. D., IVUZ Mashinostroyeniye, No 2, Feb 70,
pp 32-37

db. It may be assumed that inside the duct there exist waves at which the deformation of the ducts is very small in the radial direction. At high frequencies the soundproofing and the duct, measured by this method, approaches that of a plate. The duct becomes "softer" from the effect of flexural strain. The conducted experimental studies overcome the practical difficulties in calculating soundproofing of cylindrical ducts and shells. The article was recommended by Doctor of Technical Sciences, Professor of the Moscow Higher Technical School imeni N. E. Bauman, Ye. Ya. Yudin.

USSR

UDC 534.833

GUZHAS, D. R. (Aspirant), and TARTAKOVSKIY, B. D. (Candidate of Technical Sciences)

"Experimental Apparatus for the Study of Soundproofing Cylindrical Tubes"
Moscow, IVUZ Mashinostroyeniye, No 1, Jan 70, pp 37-41

Abstract: A description of the design and principles of action of an apparatus for the study of soundproofing cylindrical pipes 10 m long and up to 1 m in diameter used in gas supply systems is presented. The apparatus makes possible study of pipe soundproofing during external and internal sonication of pipes. The apparatus consists of a mechanical part and electroacoustic channel which in turn is composed of a master and measuring-recording channels. From the outside, the pipe is sonicated by horn loudspeakers of the type 50GRD-8. The placement and number of loudspeakers can be changed in the process of testing in order to change the diffusivity of sound field around the tube. The loudspeaker 50GRD-8 serves as a source of sound inside the pipe and is fixed in a cylindrical chamber filled with fluffy glass wool. The master channel allows excitation of the sound sources by sinusoidal tones and third octave bands of white noise. The measuring and recording apparatus consists of microphones,

1/2

USSR

GUZHAS, D. R. (Aspirant), and TARTAKOVSKIY, B. D., *IVUZ Mashinostroyeniye*, No. 1, Jan 70, pp 37-41

third-octave spectrometer of the type 2112 and narrow band analyzer of the type 2107 for noise suppression. In determining results of measurements it is necessary to consider the effect of placement and acoustic noises. The article was presented by YE. YA. Yudin, Doctor of Technical Sciences, Professor of the Moscow Higher Technical School imeni N. E. Bauman.

TARTAKOVSKIY, B.N.

Technical Sciences

WORKING DEEP LEVELS OF QUARRIES

(First All-Union Scientific and Technical Conference in Dnepropetrovsk)

Article by Doctor of Technical Sciences B. N. Tartakovskiy, Kiev, Vsesoyuznyi Nauchno-Tekhnicheskii Sbornik, Dnepropetrovsk, No 4, April 1971, pp 77-79.

The First All-Union Scientific and Technical Conference on Problems in the Working of Deep Levels of Quarries was held on 20-23 May 1970 in Dnepropetrovsk. The Conference was organized by the State Committee for Science and Engineering under the Council of Ministers USSR, the Sector of Physico-technical Mining Problems of the Institute of Geophysics named G. Yu. Stankov of the AS USSR, the Institute of Geotechnical Mechanics of the AS Ukrainian SSR and the Ministry of Ferrous Metallurgy Ukrainian SSR.

Participating in the work of the conference were 220 representatives of research institutions of the AS USSR and the academies of the union republics, branch scientific research and pedagogical institutes, planning and design organizations and the Ministry of Ferrous Metallurgy USSR, the Ministry of Coal Industry USSR, mining institutes, machine-building plants and other organizations and departments. In all, representatives of 70 organizations which work in the area of the open working of mineral deposits at great depths.

The purpose of the Conference was generalization of the results of the work of scientific research, planning and design institutions and the experience of mining enterprises which work the deep levels of quarries, determination of the principal scientific and technical directions of further solution of the problem of working deep quarries, and also improvement of the coordination of work in that branch.

At the conference, 16 reports of leading scientists of the Academy were discussed, reports in which light was shed on the basic principles of the problem of solving deep levels of leading specialists in the area of deep mining work.

The following aspects of the main problem were dealt with in the reports: 1) the scientific principles of the planning of deep operations; 2) the technology and technique of the planning of the creation of cyclic-continuous and deep layers of the main production work in quarters of sanitary-hygienic and continuous technology research work, etc.

In his opening address of Corresponding Member of the AS USSR V. V. Rukhovich stated that in solving the tasks set by the first fairly complex if not impossible 1950 Plenum of the AS USSR for the mining industry it is necessary to increase in every possible way the effectiveness of the working of deposits on the level of widely introducing the scientific achievements of science and production.

In accordance with the decision of the Board of the State Committee of the Council of Ministers USSR the Institute of Geotechnical Engineering at the AS USSR has since 1950 been carrying out research work on the problem of working deposits on the level of widely introducing the scientific achievements of science and production. The most important scientific results in the organization of the conference.

Academician M. V. Molodtsov explained the main tasks of the conference in his report. Taking into consideration the great volume of work which relates to the working of deep levels and their importance to the national economy it is necessary to systematically generalize the accumulated experience of work on the problem of deep levels and production in that area. Recommendations should be made as regards the planning-decision making of deep levels of quarters for their better design working of deep levels of quarters.

In the report of Corresponding Member of the AS USSR V. V. Rukhovich and Member of Technical Sciences Professor B. N. Tarkovskiy entitled "Main problems in the working of deep levels of quarters and tasks of scientific research work" the USSR was charged with working of deposits at low levels in the process, an analysis was given of the principal technological

1/2 007 UNCLASSIFIED PROCESSING DATE--2/NOV/0
TITLE--COMPLEXES OF MACHINES OF CONTINUOUS ACTION -U-

AUTHOR--(05)-TARTAKOVSKIY, B.N., AKUTIN, G.K., BARSUKOV, M.I., SHCHERBINA,
YU.M., OSTROUKHOV, I.I.
COUNTRY OF INFO--USSR

SOURCE--COMPLEXES OF MACHINES OF CONTINUOUS ACTION (KOMPLEKSY MASHIN
NEPRERYVNOGO DEYSTVIYA) MOSCOW, NEDRA, 1970, 123 PP
DATE PUBLISHED-----70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, MECH., IND., CIVIL AND
MARINE ENGR
TOPIC TAGS--MINING ENGINEERING, MINERAL DEPOSIT, INDUSTRIAL AUTOMATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3003/1735

STEP NO--UR/0000/70/000/000/0001/0123

CIRC ACCESSION NO--AM0130587

UNCLASSIFIED

2/2 007

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AM0130587

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TABLE OF CONTENTS: PREFACE 5.
CHAPTER I. MECHANIZATION OF STRIPPING OPERATIONS IN OPEN CUT MINES 12.
II. MECHANIZATION OF MINE CONSTRUCTION OPERATIONS IN OPEN CUT MINES 36.
USE OF CONTINUOUS OPERATION TECHNIQUES 70. CONCLUSION 125.
BIBLIOGRAPHY 126. THE BOOK DEALS WITH BASIC MOST TYPICAL FLOW SHEETS
IN MECHANIZATION OF STRIPPING AND MINE CONSTRUCTION OPERATIONS IN OPEN
CUT MINES BY MEANS OF COMPLEXES OF CONTINUOUS OPERATION MACHINES, AS
WELL AS FUNDAMENTAL PRINCIPLES IN AUTOMATION OF THESE COMPLEXES. THE
BOOK WAS WRITTEN FOR A WIDE CIRCLE OF ENGINEERING TECHNICAL PERSONNEL OF
MINING ENTERPRISES, DESIGN AND SCIENTIFIC RESEARCH ORGANIZATIONS; IT CAN
BE USEFUL ALSO TO COLLEGE STUDENTS SPECIALIZING IN THE FIELD OF OPEN CUT
MINING DEPOSITS.

UNCLASSIFIED